

Unit 2 Study Guide

Description/Things to Remember	Examples
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Patterns and Functions

x	y
input	output
domain	range
x-values	y-values
ind. variable	dep. variable

x	y
1	6
2	11
3	16
4	21

* look for a pattern in the range

after you multiply - add/subtract to get to range value

$$y = 5x + 1$$

Function: relationship b/w two sets of #s

Function rule: equation for a function

domain/range: set of numbers

Ind/dep variables: describe the two quantities/ unknowns

Square roots

$\sqrt{-n}$ = undefined $-\sqrt{n}$ = negative $\sqrt{n} = \pm$

ex $\sqrt{50}$ is in b/w 7 ($\sqrt{49}$) and 8 ($\sqrt{64}$) and ≈ 7.08

use calculator

Inverse operations

+	-
x	\div
a^2	\sqrt{a}

$\approx \rightarrow$ is about

radical symbol $\sqrt{64}$ radicand

* round to nearest hundredth 9.46

Distance and Midpoint Formula

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$\sqrt{(2 - (-2))^2 + (-1 - 3)^2}$$

$$\sqrt{(4)^2 + (-4)^2}$$

$$\sqrt{16 + 16}$$

$$\sqrt{32} \approx 5.66$$

don't forget to $\sqrt{}$

$$\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$$

$$\left(\frac{2 + (-2)}{2}, \frac{-1 + 3}{2} \right)$$

$$\left(\frac{0}{2}, \frac{2}{2} \right) = (0, 1)$$

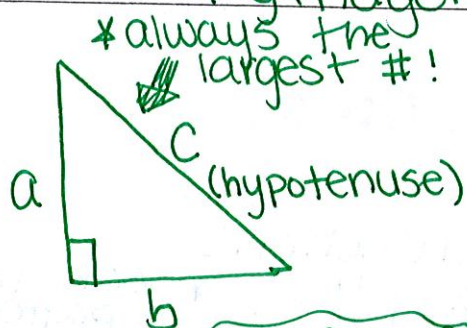
answer written as coordinates

* name your coordinates

$(-2, 3)$
 x_1, y_1
 $(2, -1)$
 x_2, y_2

$(-2, 3)$
 x_1, y_1
 $(2, -1)$
 x_2, y_2

Pythagorean theorem



$$\{a^2 + b^2 = c^2\}$$

Solve for a missing side - don't forget final step is $\sqrt{\quad}$

• round to what makes sense!

The area of the square made by side a plus the area of the square made by side b equals the area of a square made by side c.

If $a^2 + b^2 \neq c^2$
- no right triangle

Pythagoras - 500s B.C. - no beans, math & music

How to solve algebraic word problems

Step 1:

known	unknown

Step 2:

Draw and label

Step 3:

solve

Step 4:

Answer the question in a sentence